

REMARKS

Claims 1 to 27 have been provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 1 to 22 of co-pending U.S. Patent Application No. 10/789,549. Accordingly, Applicants intend to submit an appropriate terminal disclaimer upon the patenting of any conflicting claims.

Claims 1 to 6, 11 to 16 and 18 to 27 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,756,651 to Chen et al ("*Chen*") in view of U.S. Patent No. 5,594,095 to Gruber et al. ("*Gruber '095*"). Applicants respectfully submit that the combination of *Gruber '095* and *Chen* is improper and, even if properly combinable, would not teach or suggest each element of the claimed invention.

As admitted by the Patent Office, *Chen* fails to disclose, teach or suggest, polylactide-based compositions as laminates or the use of peroxides in the composition. See Office Action, page 3. Instead, *Chen* teaches biaxial-oriented films for packaging such as for a lawn and leaf bag. The films are made of degradable blends containing polylactide, a degradable impact modifier and a degradable plasticizer. *Chen*, Abstract. In addition to not disclosing laminates, *Chen* also does not disclose the use of co-polyester as an impact agent. Accordingly, in order to cure the deficiencies of *Chen*, the Patent Office has combined *Gruber '095* with *Chen* to arrive at the claimed invention.

Even if the combination of *Gruber '095* with *Chen* is proper, *Gruber '095* fails to teach or suggest a biodegradable composition wherein less than 5% by weight of a final biodegradable composition includes an organic peroxide which is added to a mixture of between 40 and 85% by weight of poly(lactic acid) and between 10 and 40% by weight of poly(epsilon caprolactone) as in the claimed invention. *Gruber '095* discloses the use of peroxide initiators added to lactide monomers during the polymerization of lactide or immediately subsequent to the formation of the poly(lactide) to improve the stability of the poly(lactide) during melt processing. Therefore, the compositions described by *Gruber '095* are involved in the creation of the poly(lactide) before any other polymers are introduced into the reaction mixture. In contrast, the claimed invention describes compositions made from adding an organic peroxide to an already existing poly(lactic acid) combined with other components such as poly (epsilon-caprolactone), co-

polyester polymer with adipic acid, etc. Therefore, *Gruber '095* fails to teach or suggest a biodegradable composition wherein less than 5% by weight of an organic peroxide is included in the biodegradable composition, wherein the organic peroxide is added to a mixture of between 40 and 85% by weight of poly(lactic acid) and between 10 and 40% by weight of poly (epsilon caprolactone).

Accordingly, Applicants respectfully submit that even if the combination of *Gruber '095* and *Chen* is proper, neither *Chen* nor *Gruber '095* teach or suggest each element of the claimed invention.

Claims 7 to 10, and 17 were rejected under 35 U.S.C. §103(a) as being unpatentable over *Chen* in view of *Gruber '095* and further in view of US 5,773,562, to Gruber et al. ("*Gruber '562*"), and U.S. Patent Application No. 2002/0094444 to Nakata et al. ("*Nakata*").

Neither *Chen* nor *Gruber '095* disclose, teach or suggest a biodegradable composition including between 0.1 and 10% by weight of co-polyester polymer with adipic acid. To this end, the Patent Office attempts to combine *Gruber '562* with *Chen* to attempt to cure the additional deficiencies of *Chen*. However, there is no motivation for one of skill in the art to combine *Gruber '562* with *Chen*. *Gruber '562* does not disclose the incorporation of poly (epsilon caprolactone) into a coating on an article as in the claimed invention. *Gruber '562* further fails to disclose the use of poly (epsilon caprolactone) in conjunction with poly(lactic acid) for coating of material and in blending it with peroxide and other elements as in the claimed invention. A co-polyester is not even mentioned in *Gruber '562*. Therefore, one of skill in the art would not be motivated by *Gruber '562* to modify *Chen* to arrive at the claimed invention.

Even if *Gruber '562* is properly combinable with *Chen*, *Gruber '562* fails to teach or suggest a biodegradable composition including between 0.1 and 10% by weight of co-polyester polymer with adipic acid. Instead, *Gruber '562* discloses introducing a second polymer to a poly(lactide) to produce a melt-stable semi-crystalline poly(lactide) film. One of a laundry list of polymers that *Gruber '562* discloses which, according to *Gruber '562*, "may be useful for improving film properties of a poly(lactide) include[s] an aliphatic polyester". *Gruber '562*, column 7, lines 22-23 and lines 30-32. The fact that a co-polyester polymer with adipic acid may be encompassed by the aliphatic polyester genus is not sufficient by itself to establish a

prima facie case of obviousness. *In re Baird*, 16 F.3d 380, 382, 29 USPQ2d 1550, 1552 (Fed. Cir. 1994). In fact, there are nearly an infinite number of compounds that are encompassed by the aliphatic polyester genus. The mere possibility that an aliphatic polyester could be modified to form the specific co-polyester polymer with adipic acid recited in the claimed invention does not make the composition obvious unless the prior art suggested the desirability of such a modification. Accordingly, there must be some motivation or suggestion to make the claimed invention in light of the prior art teachings. *In re Brouwer*, 77 F.3d 422, 425, 37 USPQ2d 1663, 1666 (Fed. Cir. 1996).

To this end, the Patent Office combines yet another reference, *Nakata*, with *Chen* to attempt to show that it is allegedly “well known in the art to use adipic acid-containing aliphatic polyesters in biodegradable polylactide resin blends in order to form compostable disposable articles.” See Office Action, page 4. However, again, one of skill in the art would not be motivated to combine a reference that fails to disclose a co-polyester polymer with poly(lactic acid) and magnesium silicate. Instead, *Nakata* discloses polyester resins used to make molded articles which include a copolyester of an aliphatic dicarboxylic acid with an aliphatic diol. *Nakata* goes on to list examples of dicarboxylic acids by the number of carbons in the dicarboxylic acid. However, nothing in *Nakata* teaches or suggests that co-polyester polymer with adipic acid can be combined with poly(lactic acid) and magnesium silicate as in the claimed invention. Therefore, *Nakata* is also deficient as to the claimed invention. In fact, none of the references teach or suggest the unique combination of between 40 and 85% by weight of poly(lactic acid), between 0.1 and 10% by weight of co-polyester polymer with adipic acid and between 5 and 10% by weight of magnesium silicate in a biodegradable composition as in the claimed invention.

Even if the combination of the references teaches every element of the claimed invention, without a motivation to combine, a rejection based on a *prima facie* case of obviousness is improper. *In re Rouffet*, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457-58 (Fed. Cir. 1998). Moreover, the level of skill in the art cannot be relied upon to provide the suggestion to combine references. *Al-Site Corp. v. VSI Int'l Inc.*, 174 F.3d 1308, 50 USPQ2d 1161 (Fed. Cir. 1999). “The mere fact that the prior art may be modified in the manner suggested by the Examiner does

not make the modification obvious unless the prior art suggested the desirability of the modification.” *In re Fritch*, 23 U.S.P.Q. 2d 1780, 1783-84 (Fed. Cir. 1992).

What the Patent Office has done is to rely on hindsight reconstruction of the claimed invention. Applicants respectfully submit that it is only with a hindsight reconstruction of Applicants’ claimed invention that the Patent Office is able to even attempt to piece together the teachings of the prior art so that the claimed invention is allegedly rendered obvious. Instead, the claims must be viewed as a whole as defined by the claimed invention and not dissected into discrete elements to be analyzed in isolation. *W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1548, 220 USPQ 303, 309 (Fed. Cir. 1983); *In re Ochiai*, 71 F.3d 1565, 1572, 37 USPQ2d 1127, 1133 (Fed. Cir. 1995). One should not use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention. *In re Fine*, 837 F.2d at 1075. (Fed. Cir. 1988).

Even this piece meal reconstruction fails to suggest the Applicants’ claimed compositions and methods. As presented above, neither *Gruber’095*, *Gruber’562* nor *Nakata* can be relied on solely to remedy the deficiencies of *Chen*. Clearly, the cited art fails to disclose or suggest such features as required by the claimed invention. Therefore, Applicants do not believe that one skilled in the art would be so inclined to modify the cited art to arrive at the claimed invention.

Based on at least these noted reasons, Applicants believe that the cited art is deficient with respect to the claimed invention. Therefore, Applicants respectfully submit that the cited art, even if combinable, fails to render obvious the claimed invention.

Accordingly, Applicants respectfully request that the obviousness rejections be withdrawn.

For the foregoing reasons, Applicants respectfully submit that the present application is now in condition for allowance and earnestly solicit reconsideration of same.

Respectfully submitted,

BELL, ~~BOYD~~ & LLOYD LLC

BY

Robert M. Barrett
Reg. No. 30,142
Customer No. 29174

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